

1
00:00:00,190 --> 00:00:06,660
[Music]

2
00:00:07,549 --> 00:00:14,218
your guide to constellations deep-sky

3
00:00:10,609 --> 00:00:18,280
objects planets and events tonight's sky

4
00:00:14,218 --> 00:00:24,899
highlights of the February sky

5
00:00:18,280 --> 00:00:24,899
[Music]

6
00:00:35,990 --> 00:00:40,630
you

7
00:00:37,630 --> 00:00:42,710
Mars and Venus accompany each other in

8
00:00:40,630 --> 00:00:54,259
the West after sunset

9
00:00:42,710 --> 00:00:54,259
[Music]

10
00:00:54,308 --> 00:01:02,308
use a telescope to search for features

11
00:00:57,340 --> 00:01:02,309
on Mars or the crescent phase of Venus

12
00:01:02,600 --> 00:01:08,028
[Music]

13
00:01:14,909 --> 00:01:20,799
the winter night sky filled with

14
00:01:17,920 --> 00:01:24,000
brilliant stars presents one of the best

15
00:01:20,799 --> 00:01:24,000
celestial views

16
00:01:30,319 --> 00:01:40,009
Orion the great hunter of Greek

17
00:01:33,079 --> 00:01:42,530
mythology dominates the winter sky this

18
00:01:40,010 --> 00:01:45,800
constellation is among the easiest to

19
00:01:42,530 --> 00:01:50,329
recognize it is full of young stars

20
00:01:45,799 --> 00:01:53,500
dying stars and many nebulae Betelgeuse

21
00:01:50,329 --> 00:01:57,618
one of Orion's shoulders is a red

22
00:01:53,500 --> 00:01:59,989
supergiant star about 650 times bigger

23
00:01:57,618 --> 00:02:05,109
than the Sun it shines with the

24
00:01:59,989 --> 00:02:05,109
brightness of tens of thousands of Suns

25
00:02:06,519 --> 00:02:12,319
Betelgeuse is near the end of its life

26
00:02:09,699 --> 00:02:15,139
with the fuel of the Stars core

27
00:02:12,319 --> 00:02:18,109
practically depleted the core has

28
00:02:15,139 --> 00:02:22,869
contracted and heated causing the outer

29

00:02:18,110 --> 00:02:22,870
gaseous layers of the star to swell

30
00:02:23,680 --> 00:02:30,830
Rigel one of Orion's knees is a triple

31
00:02:27,590 --> 00:02:35,299
star system made up of two smaller stars

32
00:02:30,830 --> 00:02:38,709
orbiting a blue supergiant Rigel z' blue

33
00:02:35,299 --> 00:02:42,379
supergiant star has a short lifespan

34
00:02:38,709 --> 00:02:44,750
blue supergiant stars are much hotter

35
00:02:42,379 --> 00:02:47,329
than our Sun and use up their fuel

36
00:02:44,750 --> 00:02:51,750
quickly

37
00:02:47,330 --> 00:02:56,130
Orion's belt is easy to spot it is made

38
00:02:51,750 --> 00:03:01,860
up of three stars Alnitak Alnilam and

39
00:02:56,129 --> 00:03:05,568
Mintaka from the left side of Orion's

40
00:03:01,860 --> 00:03:08,400
belt look down to the great Orion Nebula

41
00:03:05,568 --> 00:03:11,429
although barely visible to the naked eye

42
00:03:08,400 --> 00:03:14,760
it is the brightest diffused gas cloud

43
00:03:11,430 --> 00:03:18,719

in the night sky nebula is Latin for

44

00:03:14,759 --> 00:03:22,009

cloud a small telescope unveils the

45

00:03:18,719 --> 00:03:27,879

details and grandeur of the nebula

46

00:03:22,009 --> 00:03:31,429

[Music]

47

00:03:27,879 --> 00:03:35,329

embedded inside the Orion Nebula is the

48

00:03:31,430 --> 00:03:37,909

trapezium a group of hot young stars so

49

00:03:35,330 --> 00:03:38,770

brilliant they cause the surrounding gas

50

00:03:37,909 --> 00:03:56,289

to glow

51

00:03:38,770 --> 00:03:59,890

[Music]

52

00:03:56,289 --> 00:04:02,199

Canis Major the great dog is the

53

00:03:59,889 --> 00:04:06,878

faithful companion who follows in

54

00:04:02,199 --> 00:04:09,518

Orion's footsteps Canis Major is

55

00:04:06,878 --> 00:04:14,229

dominated by the most brilliant star in

56

00:04:09,519 --> 00:04:17,798

the night sky Sirius Sirius is actually

57

00:04:14,229 --> 00:04:21,538

a double system containing a bright star

58
00:04:17,798 --> 00:04:25,978
and a much smaller and fainter companion

59
00:04:21,538 --> 00:04:28,629
it is a mere 8.6 light-years away

60
00:04:25,978 --> 00:04:31,899
scanning with binoculars just below

61
00:04:28,629 --> 00:04:36,759
Sirius will reveal a lovely cluster of

62
00:04:31,899 --> 00:04:41,829
stars called m41 it contains about 100

63
00:04:36,759 --> 00:04:45,189
stars including several red giants stars

64
00:04:41,829 --> 00:04:49,379
in clusters like m41 were born together

65
00:04:45,189 --> 00:04:49,379
and are all about the same age

66
00:04:52,120 --> 00:04:55,209
[Music]

67
00:05:02,228 --> 00:05:08,329
Jupiter ascends into the eastern sky

68
00:05:04,699 --> 00:05:11,199
around midnight and climbs high into the

69
00:05:08,329 --> 00:05:16,838
southeast during the early morning hours

70
00:05:11,199 --> 00:05:20,418
[Music]

71
00:05:16,838 --> 00:05:23,300
aim a telescope at Jupiter to view its

72
00:05:20,418 --> 00:05:23,868
cloud bands and to see how many of its

73
00:05:23,300 --> 00:05:25,560
moons

74
00:05:23,869 --> 00:05:36,640
you can spot

75
00:05:25,560 --> 00:05:39,410
[Music]

76
00:05:36,639 --> 00:05:41,550
Saturn follows Jupiter into the

77
00:05:39,410 --> 00:05:49,449
southeast a few hours later

78
00:05:41,550 --> 00:05:49,449
[Music]

79
00:05:50,408 --> 00:05:55,550
catch a glimpse of Saturn's rings

80
00:05:52,879 --> 00:05:55,970
through a telescope before the Sun comes

81
00:05:55,550 --> 00:06:07,299
up

82
00:05:55,970 --> 00:06:07,299
[Music]

83
00:06:09,120 --> 00:06:14,819
visible throughout most of the world a

84
00:06:12,019 --> 00:06:17,549
penumbral lunar eclipse occurs in the

85
00:06:14,819 --> 00:06:20,759
late evening of February 10th or the

86

00:06:17,550 --> 00:06:23,370
early morning of February 11th depending

87
00:06:20,759 --> 00:06:26,250
on the viewing location the moon will

88
00:06:23,370 --> 00:06:30,228
darken slightly as it passes through the

89
00:06:26,250 --> 00:06:33,889
outer edges of Earth's shadow on

90
00:06:30,228 --> 00:06:37,889
February 26 parts of South America

91
00:06:33,889 --> 00:06:41,189
Africa and Antarctica will be treated to

92
00:06:37,889 --> 00:06:44,340
either a partial solar eclipse or an

93
00:06:41,189 --> 00:06:47,639
annular eclipse when the moon blocks all

94
00:06:44,339 --> 00:06:51,138
but the outer edge of the Sun leaving a

95
00:06:47,639 --> 00:06:51,139
glowing Ring of Fire

96
00:06:53,449 --> 00:06:58,460
the night sky is always a celestial

97
00:06:57,300 --> 00:07:00,870
showcase

98
00:06:58,459 --> 00:07:01,979
explore its wonders from your own

99
00:07:00,870 --> 00:07:24,329
backyard

100
00:07:01,980 --> 00:07:24,329

[Music]